

FILE 'MEDLINE, AGRICOLA, CAPLUS, BIOSIS, EMBASE, WPIDS' ENTERED AT  
09:05:11 ON 23 APR 2002

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L1      1582 S PRIMEVEROSIDASE# OR PRIMEVEROSIDE# OR DIGLYCOSIDE# OR DIGLYCO
L2      13 S L1 AND ASPERGILLUS
L3      9 DUP REM L2 (4 DUPLICATES REMOVED)
L4      3 S L1 AND (PENICILLIUM OR RHIZOPUS OR RHIZOMUCOR OR TALAROMYCES
L5      2 DUP REM L4 (1 DUPLICATE REMOVED)
L6      92 S L1 AND (YEAST OR FUNGUS OR FUNGI OR BACTERI? OR MICROBI? OR M
L7      56 DUP REM L6 (36 DUPLICATES REMOVED)
L8      46 S L7 NOT PY>1999
L9      1 S 3.2.1.149
L10     39 S PRIMEVEROSIDASE
L11     28 DUP REM L10 (11 DUPLICATES REMOVED)

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FILE 'CAPLUS' ENTERED AT 09:37:54 ON 23 APR 2002

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L12     2 S (E3 OR E147) AND (DIGLYCOSID? OR PRIMEVEROSID? OR (DISACCHARI
      E YAMAMOTO S/AU 25
L13     1 S (E3 OR E44) AND (DIGLYCOSID? OR PRIMEVEROSID? OR (DISACCHARID
      E OKADA M/AU 25
L14     13 S (E3 OR E9 OR E11) AND (DIGLYCOSID? OR PRIMEVEROSID? OR (DISAC
      E USUI T/AU 25
L15     26 S (E3 OR E12) AND (DIGLYCOSID? OR PRIMEVEROSID? OR (DISACCHARID
      E SAKATA K/AU 25
L16     2 S (E4) AND (DIGLYCOSID? OR PRIMEVEROSID? OR (DISACCHARIDE (W) G
      E TSURUHAMI K/AU 25
L17     2 S (E4) AND (DIGLYCOSID? OR PRIMEVEROSID? OR (DISACCHARIDE (W) G

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## IUBMB Enzyme Nomenclature

**EC 3.2.1.149**

**Common name:**  $\beta$ -primeverosidase

**Reaction:** a 6-*O*-( $\beta$ -D-xylopyranosyl)- $\beta$ -D-glucopyranoside + H<sub>2</sub>O = 6-*O*-( $\beta$ -D-xylopyranosyl)- $\beta$ -D-glucopyranose + an alcohol

**Glossary**

primeverose = 6-*O*-( $\beta$ -D-xylopyranosyl)-D-glucose

vicianose = 6-*O*-( $\alpha$ -L-arabinopyranosyl)-D-glucose

**Systematic name:** 6-*O*-( $\beta$ -D-xylopyranosyl)- $\beta$ -D-glucopyranoside 6-*O*-( $\beta$ -D-xylosyl)- $\beta$ -D-glucohydrolase

**Comments:** The enzyme is responsible for the formation of the alcoholic aroma in oolong and black tea. In addition to  $\beta$ -primeverosides [i.e. 6-*O*-( $\beta$ -D-xylopyranosyl)- $\beta$ -D-glucopyranosides], it also hydrolyses 6-*O*-( $\beta$ -D-apiofuranosyl)- $\beta$ -D-glucopyranosides and, less rapidly,  $\beta$ -vicianosides and 6-*O*-( $\alpha$ -L-arabinofuranosyl)- $\beta$ -D-glucopyranosides, but not  $\beta$ -glucosides. Geranyl-, linaloyl-, benzyl- and *p*-nitrophenol glycosides are all hydrolysed.

**Links to other databases:** [BRENDA](#), [EXPASY](#), [KEGG](#), [WIT](#), CAS registry number:

**References**

1. Ijima, Y., Ogawa, K., Watanabe, N., Usui, T., Ohnishi-Kameyama, M., Nagata, T. and Sakata, K. Characterization of  $\beta$ -primeverosidase, being concerned with alcoholic aroma formation in tea leaves to be processed into black tea, and preliminary observations on its substrate specificity. *J. Agric. Food Chem.* 46 (1998) 1712-1718.
2. Ogawa, K., Ijima, Y., Guo, W., Watanabe, N., Usui, T., Dong, S., Tong, Q. and Sakata, K. Purification of a  $\beta$ -primeverosidase concerned with alcoholic aroma formation in tea leaves (cv. Shuxian) to be processed to oolong tea. *J. Agric. Food Chem.* 45 (1997) 877-882.

[EC 3.2.1.149 created 2001]

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Return to [EC 3 home page](#)

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|    | Hits | Search Text   | DBs                                | Time Stamp       |
|----|------|---|------------------------------------|------------------|
| 1  | 6    | primeverosidase or primveroside or (disaccharide adj glycosidase) or diglycosidase                                      | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2002/04/23 08:49 |
| 2  | 1    | (primeverosidase or primveroside or (disaccharide adj glycosidase) or diglycosidase) and (microorganism or aspergillus) | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2002/04/23 08:59 |
| 3  | 81   | yamamoto.in. and glycoside  | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2002/04/23 08:59 |
| 4  | 5    | (yamamoto.in. and glycoside) and disaccharide   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2002/04/23 09:00 |
| 5  | 8    | okada.in. and disaccharide  | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2002/04/23 09:02 |
| 6  | 9    | okada.in. and (disaccharide or primeveroside)   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2002/04/23 09:03 |
| 7  | 8    | usui.in. and (disaccharide or primeveroside)  | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2002/04/23 09:04 |
| 8  | 11   | sakata.in. and (disaccharide or primeveroside)  | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2002/04/23 09:05 |
| 9  | 1    | toumoto.in. and (disaccharide or primeveroside)   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2002/04/23 09:05 |
| 10 | 1    | tsuruhami.in. and (disaccharide or primeveroside)   | USPAT; US-PGPUB; EPO; JPO; DERWENT | 2002/04/23 09:05 |

65007

Fr m: Steadman, David (AU1652)  
Sent: Tuesday, April 23, 2002 8:42 AM  
To: STIC-Biotech/ChemLib  
Subj ct: 09/806,413 sequence search

NAME: David Steadman  
AU: 1652  
Date: 04/23/02  
Office: 10D-04  
Mailbox: 10C-01 M3  
Case Serial #: 09/806,413

Please search the following sequence in commercial databases:

1) SEQ ID NO:8 (polypeptide sequence) against nucleic acid databases.

Please save search results to diskette.

Thank you very much,  
David J. Steadman  
308-3934  
CM1, 10D-04

Edward Hart  
Technical Info. Specialist  
STIC/Biotech  
CMI 6B02 Tel: 305-9203

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